

Nursing Home Design/Nurses' Care Stations

Traditionally, a centralized Nurses' or Care Station has been a prominent feature in long-term care homes. Based on the medical model of acute care hospitals, this area served as a work station for office tasks such as record keeping, medication preparation and resident monitoring. Often the Nurse's Station was located at the entrance to the residential living areas and served as a control point both for visiting family members and residents. The physical design of the station acted as a barrier that separated staff from residents - either as closed-in offices or located behind high counters, thereby reinforcing the institutional nature of the home. Solutions to this noisy, centralized design involve breaking up the Nurses' Stations into smaller, more welcoming, decentralized stations, or, partially, to create a hybrid form.

By Bill Benbow, M.S.W., Health Planner and Consultant on Seniors' Health Care and Housing

Nurses' Stations: Are they essential?

The transformation of Nurses' Stations in long-term care

Over the past two decades, as designs for nursing homes evolved to smaller Households and more home-like environments, many jurisdictions have shifted away from the institutional control centres. This 'de-medicalizing' of the physical environment is an aspect of "Culture Change," and a key feature is the removal or minimization of Nurses' Stations.

Care stations, if included at all, are usually open with a small work desk and, overall, a more residential feel. Sometimes a small confidential work area is provided as a separate den for staff, as in the Green

House Model of nursing home care.

Often, work offices are removed entirely from the Household and situated in a support area shared between Households. Medication preparation and shift change meetings can occur in the shared Care Station outside of the Household. Meds can be kept in locked cupboards in the servery/kitchenette, or in residents' private Rooms.

Minimal institutional trappings

The point is to minimize institutional trappings such as Nurses' Stations and medication carts, and maximize a home-

like environment. The goal is to facilitate and encourage interaction between staff and residents, with the definite hope of improving the quality of life of residents.

'Chez Nous' - 'Our Home'

Manitoba architect, Rudy Friesen, was involved in an early Canadian nursing home model; he describes the process:

In the early 1990s, when the staff at Foyer Notre Dame in the town of Notre-Dame de Lourdes in Southern Manitoba decided to rethink their approach to LTC, they chose to restructure their facility to create "a home-like community that nurtures the human spirit. They named it *Chez Nous*."

Addressing the need to de-institutionalize their care home, they asked:

- 'Do homes run on schedules?' and,
- 'How do we furnish a home?'

In response to the first question, changes were made that included a very different staffing model, one that would allow staff to perform various duties interchangeably in housekeeping, dietary, and activities.

Their response to the second question included elimination of the Nurses' Station. Nursing staff now charted in the dining room, and files were stored in a locked cupboard (Friesen, July, 2015).



The "Chez Nous" ('Our Home') in Manitoba, comprised of three 10-bed Households, follows a transitional "line of sight" approach for its care station. It uses an open discrete design and is located at a junction where the three Households come together in a Gathering Place. This Care Station, used only at night when the staff count is reduced, allows a view into all three Households.



The Heights at Mount View in Victoria, B.C. - a hybrid approach: This seven story, 260-bed facility comprised of 13 twenty-bed households, utilizes a modified "behind the counter" model for a staff workspace. This involves an open plan, three-part work space along one side of the main amenity/dining room/activity space, which is made up of a servery in the middle, combined with a resident kitchen area at one end, and a small care staff work space on the right hand side. The only separation from the residents dining area is a low counter with easy access to both kitchen and resident care desk.



Caregivers' sub-stations (one in an alcove for one or two staff) provide 'immediacy' to the residents' living areas.

On the left is a wall-mounted work station that can be situated almost anywhere.

For more immersive work, or for staff socialization and rest, a centralized, more distant location can be used.



The Czorny Alzheimer Centre

The Czorny Alzheimer Centre in Surrey, British Columbia has successfully followed a similar Household model for a number of years. Clinical manager, Louise Brown asks: "Do you have a Nursing Station in your own home?"

Czorny Alzheimer Centre is a 72-resident facility made up of six cottages of twelve residents each - with no Nurses' Stations. Care staff do their charting at the dining tables. Files are kept off-stage in an office in the administration area. Louise Brown describes the process:

"Moving away from the traditional nurses' station engages residents in their community with staff. Cottage meetings are held at the dining table and residents often "involve" themselves with what's being said. Staff do not have any 'turf' (i.e., a Nurses' Station) to protect, but respect that they work in someone's home. This creates

more ownership of the environment and a sense of belonging; there's no 'us and them.'

"Medications are dispensed from a pantry, not conveyor-belt style from a cart, and at a time that is convenient for the resident - and not an unwelcome distraction of noisy crushing of pills. Staff are present and able to observe resident interactions and moods before it gets to frustration, with behaviour escalating and staff having to retreat behind the Perspex (Plexiglas) wall" (Louise Brown, 2015).

Some health authorities just don't get it!

Unfortunately, many Provincial Regulations still require out-moded Nurses' Stations in their long-term care homes. New Brunswick's 2015 Design Standards continues with this conventional model requiring a 24.6 square metre office (care office) for each Household - with windows situat-

ed to provide visibility into resident areas.

One care office is required to support a resident household and provide space for staff to work. This space must allow for the entire care team to confer together in order to plan, implement, assess, coordinate, and assign resident care. Confidential resident records are kept in this area.

The care office is the primary area to perform resident documentation, information verification, manual or electronic data recording, phone calls, faxes, as well as select scheduling activities. The office also hosts the care support clerk work station which is the primary receptionist for the resident house (New Brunswick, 2015).

Similarly, Ontario implies this institutional model in the 2015 update of its Long-Term Care Home Design Manual.

"The provision of resident care involves the assessment, planning, implementation, communication and evaluation of care.

The work space for staff in each RHA (resident home area) must be designed to support a well-coordinated, multi-disciplinary system that will allow staff to meet resident and treatment needs in an efficient and effective manner.

"The work space for staff must also be designed so that it can readily be identified by residents, staff, visitors and others as an information centre and an area for contacting staff" (Ontario, 2015).

Research supports redesign and/or removal of Nurses' Stations

Several studies have examined the issues concerning changes to Nurses' Stations, particularly in Acute Care; but these findings in many cases apply equally to LTC.

As early as 1995 John Peacock described this shift in *Redefining the Nurses Station*:

• Redesign improves function

"A good design solution for a nursing station develops the desired residential environment, but remains an efficient space for nursing staff operations.

"Rethinking the Nursing Station is easily accomplished by taking apart its functions and providing specific spaces that accommodate each task. Such redesign will improve results. For example, by moving the CNAs' stations and placing equipment/supplies closer to where they are needed most - the resident wings - the CNAs are able to provide a higher level of care. . .".

• Moving workspaces behind the scenes

"It helps, in keeping with a more home-like environment, to move the business and nursing functions of the Nurses Station behind the scenes. These functions can be relocated to a room off the corridor where the nurses and doctors can perform their duties, such as charting and in-servicing, in an environment supporting their everyday business needs. . .".

• Redesigning the existing station

"One option is to design an area modeled after a homelike setting. For example, replacing the Nurses' Station with a table that traditionally resembles one you might find in a dining room or kitchen - where most activity in the home occurs - can encourage resident relaxation and family participa-

tion. . . Several duties are conducted at the table: it is a place, for example, where nursing staff can be seated while doing some charting, while at the same time keeping an eye on residents. The residents have a place to sit in lieu of hanging out at the nursing station. . . The lighting was changed from the fluorescent office lights to residential-looking fixtures that give off a warmer light, and providing a more familiar visual environment. . ." (Peacock, 1995).

The Nursing Station . . . "A barrier"

Dr. Margaret P. Calkins, Ph.D., is internationally recognized as a creative and dynamic leader in the field of environments for elders. In a 2011 article on "ten senior living design innovations," she succinctly summarizes the evolution of this redesign movement:

"For a long time, the traditional nursing station was a space nurses felt was indispensable; but often it became the barrier that separated staff from the very residents in their care.

"This past decade, there have been many examples of households (no longer called 'units') that have eliminated this institutional icon. [Nurses'] work spaces may be decentralized to a number of smaller desks or alcoves throughout the household or incorporated into kitchen areas. Often there is a separate enclosed office or mini-conference room for private conversations.

"This shift to smaller workspaces is supported by the growing use of computer-based charting. When relevant and up-to-date resident data is available to staff on any computer terminal, and call systems can page staff wherever they are, there is no need to be tied to a single charting location" (Calkins, 2011).

Hindering the progression (regulatory issues)

Gaius Nelson, a U.S. architect, has been working towards changes in buildings, design codes and regulations as they apply to facilities for older people. He addresses three regulatory issues that may hinder the devolution, from an institutional style nursing station, to a more homelike approach:

Issue # 1 - Direct line-of-sight as control over the corridor

"When staff members are assisting residents and performing meaningful care tasks, they are most often within the resident room or bathroom, with no visual connection to public spaces.

"This need for visual control has been rationalized as providing quick assistance to a resident who may fall; yet, most falls occur within private resident rooms. No one suggests a line-of-sight into all bathrooms.

"Requiring visual control is an outdated concept that does not recognize the realities of nursing care, nor the advances achieved through communication technologies.

Issue # 2 - Distance to the Nurses Station

"Many state (or regulated) requirements include maximum travel distance from a Nursing Station to resident rooms. These requirements assume that a fixed Nursing Station is required for staff to perform their work and for electronic calls to be received.

"There are many approaches to resident care that do not necessitate a fixed location. The only requirement should be that adequate staffing levels be provided to meet the care needs of residents.

Issue # 3 - Wired and wireless call systems

"Requirements that various alarms or notification be directed to a Nurse Station, or other permanently staffed locale, does not recognize the reality that nursing staff do not remain in fixed locations.

"Technological advances in resident-to-staff communication systems that do not require the use of hard wired systems can provide superior performance, allowing resident (care) assistants and nursing staff to respond to resident calls from any location" (Nelson, 2007).

Traditional vs. non-traditional

Dr. Howard Degenholtz, Ph.D., and colleagues, developed a *Typology of Nursing Home Environments* and found four basic types to describe the "Far Environment," the area outside of resident rooms. One type of environment stood out, namely, Type C, which was distinguished by being relatively small in terms of unit size, had the highest number of lounges and lounge space, superior lighting, and unit-based dining.

The environmental study by Degenholtz (also described three types of work station

configurations:

1. behind a counter
2. in an alcove; and
3. in an open area.

(Degenholtz, et al., 2006)

Type C had the most non-traditional Nurses' Stations with only 47% behind a counter, 38% in an alcove, and 16% in the open.

The other types of nursing home environments varied from 78% to 91% traditional Nurses' Stations. Type C, however, dominated in terms of features conducive to maintenance of function and life quality.

Centralized vs. decentralized

In a 2010 study, centralized vs. decentralized nursing stations were compared in terms of effects on nurses' functioning. The traditional nursing station was described as the 'heart and soul' of nursing care activities in hospitals and long-term care facilities with visibility and ease of supervision the key element.

However, with the advent of more private rooms, it was found that there were no indications that either centralized or decentralized nursing station designs resulted in superior visibility; also, sound levels, measured in all nursing stations, exceeded recommended levels.

It was concluded that a 'hybrid' nursing model in which decentralized nursing stations, coupled with centralized meeting rooms for communication and consultation, may provide a balance between record keeping, social support for staff and direct patient care (Zborowsky, et al., 2010).

International models

Rejane le Grange (2015), an Australian researcher, recently visited numerous facilities in Europe; she reports a definite tendency towards standing stations with wall mounted computer screens.

Jonas Anderson (2011) reports that, in Swedish accommodation for frail elderly, the nurses' station is normally located outside the residential unit and serves several units at the same time. The medicine dispensary and residents' records are in a locked room near this off-stage office.

Australian, Danielle McIntosh, a consultant on dementia design, feels strongly that "a nurses station is not a feature of a house!" She reports:

Alberta's hybrid approach

Alberta's draft of its 2014 *Guidelines* illustrates the 'hybrid' approach: "Staff work spaces support the home-like ambience of the facility; they are located in areas that assist staff to carry out responsibilities. Staff work spaces that should not be accessed by residents or families will be out of view of resident spaces. Staff work spaces that residents and families will wish to access are easily accessible and recognizable - all without compromising confidentiality and privacy. "Each Neighbourhood (or at a minimum, each level) within a facility should have a designated work space that assists staff to carry out care responsibilities. Depending on the facility, spaces may vary from a lockable desk/room, to an interdisciplinary team work area" (Alberta, 2014).

"At Hammond Care, we don't build nurses stations or offices. We call them parlours; and we call our houses cottages, and the name parlour sort of aligned with that. The parlour is equivalent to a study in a house; . . . we have designed it as a resident space (as it is in the cottage); . . . we have furnished it with a small table and chairs (like a sitting room) and a single sofa bed/chair, as it is sometimes used by family members.

"We built a file room (like a walk-in wardrobe to store client files. . . The parlour has multiple uses: a discreet area to speak with family members or doctors, a staff hand-over area, a spare bedroom in the event of a problem with a resident's room, a visitor sleepover room, or a quiet area for a resident to use" (McIntosh, 2015).

A US/Canadian study examined the effect of modifying the nurses' station in a long-term care facility. Renovations included replacing the dominant central Nurses' Station with a smaller nurses' station and moving to a Household model with clusters of 12 resident rooms.

The study found that the smaller nurses' station, relocated to one side, improved staff-resident interaction. Staff commented that the reduced visual access to the corridors was not a drawback. The study authors stressed the importance of a participatory planning process that involved staff input (Schwarz, et al., 2004).

The hybrid model

Yen Chiang described Nurses' Stations as providing a central space for critical 'gatekeepers' and 'greeters'. Three levels of workspace are suggested:

1. Curbside space for standing work, informal or impromptu conversations and quick documentation;
2. Step-in space for sitting, documenting, phone calls and small meetings; and
3. Immersive workspaces for team meetings and education.

A hybrid model is recommended with a centralized area for immersive work, socialization and rest; and substations for more immediacy to resident areas.

Larry Flynn, senior editor of *'Building Design & Construction'*, addresses the issue of increasing technological aids for decentralizing staff vs. the need for collaboration with colleagues, including pharmacists, clergy, rehab therapists, etc.

He suggests that the type of nursing station will depend upon the culture of the facility. Hybrid models are coming into favour with a balance between bedside and collaborative spaces. In addition respite spaces are being located near work areas to help reduce staff stress and encourage socialization and support (Flynn, 2005).

Culture of the facility

Many researchers comment on the "culture" or "ethic" of a facility as determining the style and design of work stations. Le Grange believes Nurses' Stations give a clear indication of organizational values, culture and approach (Le Grange, 2015).

The Culture Change movement certainly sees the traditional Nurses Station as a vestige of the medical/institutional approach, as opposed to a more home-like residential environment where much of staff meeting and office work is off stage.

In this author's view, the "culture" of the Health Authority and facility will drive the size of the Household and this will drive the size and location of work stations.

A smaller 10 to 12 bed Household can manage nicely with a Hybrid Model such as with a locked cupboard or desk within the Household and shared Neighbourhood meeting rooms off stage.

Larger Households may make a case for incorporating a modified central Nurses Station within the Household, but one that combines barrier free access for residents and family with separate, more discreet

working and meeting areas.

One suggestion is to have a back-of-House, multipurpose meeting area that can be used as a Board Room, staff training, confidential task area and team meetings.

The type of residents cared for will also influence the design of work stations. Behaviour units for aggressive residents, for example, may require protective glass partitions and refuge areas for emergency use.

In addition, staff rooms for breaks and rest need to be close to Households so that staff can easily recharge their batteries.

We are in the midst of a "Culture Change" that includes the Evolution of Care Stations in LTC. The author welcomes comments and examples of these changes. ■

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A securable medical cupboard and work station



This location formerly served as a traditional nursing station. The locale still functions as a nursing station for a nursing home in Ohio, albeit, smaller, more welcoming and just as functional.

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Why some facilities resist change from the traditional nurses' station

The continued requirement for the more traditional Nurses' Station by some provincial health authorities, such as New Brunswick and Ontario, suggests that there is resistance to de-institutionalizing this element. The following points highlight some of the issues difficult to give up:

• Feelings of isolation

Some research has noted that a centralized nursing station provides space for essential collaboration among caregivers as well as socialization opportunities. Focus group comments highlighted the feelings of isolation resulting from decentralization:

"At the centralized nursing station you are valued as a team member more. At the decentralized station you feel alone."

In addition, nurses emphasized the need for separate office space for certain tasks:

"We are working on a concept of bringing the nurse more to the bedside... but there are certain things you cannot do at the bedside and that need to be done in a separate place" (Zborowsky, et al., 2010).

Lousie Brown, clinical manager at The Czorny Alzheimer Centre in Surrey, BC, suggests that this feeling of isolation can be countered by actively promoting a sense of 'team' with tools such as "safety huddles" for support. Also, she says, there are technologies available to enable staff to call for assistance as needed, such as cell phones and pagers (Louise Brown, July, 2015).

• Territoriality and control

An Australian study emphasized the importance of Nurses' Stations as hubs that provide 'turf and territoriality' that foster staff relationships and support. The nurses' station was a form of symbolic power to other staff, visitors and residents. The study also found that communication between staff was impacted by the layout of the nurses' stations due to a lack of privacy and space. There was a clear need for private enclosed space for more confidential conversations and record keeping (Le Grange, 2015).

Finally, Ann Wakefield (October, 2002), in "The Changing Shape of the Nursing Station," described the 'control' functions of the Nursing Station in terms of access to the ward, monitoring visitors and enforcing norms and expectations, such as overseeing work activity and socialization.

• Staff safety

David Brown suggests creating an open portion of the nurses' station to encourage interaction between staff and residents, and also creating a separate area where staff can retreat and conduct administrative functions. He calls these 'on stage' and 'off stage' areas. He points out how critical it is to include staff in the design stage so that the changes become part of the care staff culture: "Staff must fully understand the thought process behind the design and be keenly vested in its success."

Brown points out that, in some venues, a closed office model may still be appropriate: e.g., a mental health or psycho-geriatric unit where staff may require an area of refuge with good visibility (David Brown, 2009).

The U.S. Veterans Affairs "Mental Health Facilities Design

Guide" has addressed the issue of staff safety on behavioural units - while still endorsing open work stations:

"The nursing station should be open and not enclosed. Enclosed nursing stations were more common in traditional inpatient design approaches.

"Open nursing stations promote nursing staff engagement with patients and involvement on the unit.

"Open nursing stations send an important message that staff are accessible and often lead to reduced attention-seeking behaviour by patients.

"Nursing staff and patients have been shown to prefer open nursing stations after a change from closed to open nursing stations. If necessary, laminated glass can be installed... to prevent patients from accessing the nurse work areas.

"Bedroom corridors and primary patient activity areas should be directly visible from the nursing station.

"The primary design focus for the nursing station is to maintain patient confidentiality during significant inputting or reviewing of patient information that requires stationary computer access.

"The opportunity for equipment within the nursing station being used as a weapon by the patient should be minimized by integrating computer equipment and storage area into the hardware of the nursing station.

"Moreover, the nursing station should not serve as a physical barrier that prevents normal interaction between patient and caregiver... In addition, large spaces behind, or adjacent to, the nursing station should be avoided, as this often serves as a place for staff to congregate rather than on the floor with patients" (USDVA, 2010).

Coping with challenging behaviours

Sylvia Buchanan, Manager of the Dorothy Machem Home (DMH), Sunnybrook Health Sciences Centre in Toronto, has experience working with residents who have challenging behaviours due to dementia.

The DMH is a cottage style Household for residents with moderate to severe dementia with behaviours that put others at risk of injury or significantly disrupt the lives of others. This facility features 10 private rooms and is self-contained with an enclosed secure garden.

The facility opened in 2001 and for the first five years staff used a small armoire type desk against the wall in the living room to do their charting. They found this a safety hazard for staff who worked with their backs to the residents. There were a number of incidents with residents accosting staff from behind. Consequently, Sunnybrook's Dorothy Machem Home has transitioned to a separate charting room still in the Household so that residents can wander in, sit on a couch and interact with staff. The room is lockable and has two doors so that staff can isolate or remove themselves if necessary. The kitchen is also lockable as a refuge. Staff still use a computer on a wheeled cart in the living room, but generally face residents. These adjustments have increased staff safety with this unpredictable type of resident.

Bill Benbow, July, 2015